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**BIOGEOGRAPHY**, *Gambelia wislizenii* (intrap. mtDNA diff. rel. to biogeogr.) 267-273; *Oncorhynchus mykiss* (evol. of popns. w/ 58 & 60 chromosomes, biogeogr. hypoth.) 287-298; *Gonorynchus* (5 valid spp.) (clad. anal. will allow biogeogr. anal.) 453-469; *Crotalinae* (19 gen., 45 spp.) (clad. anal. elucid. biogeogr.) 576-586; *Scomberomorus (regalis, brasiliensis, maculatus, concolor, sierra, tritor)* (clad. anal. elucid. biogeogr.) 596-613; *Catostomus catostomus* (Salish sucker form) (origin of Salish sucker as signif. evol. unit) 884-893; *Macrhybopsis (tetraneura, hyostoma)* (changes due to reservoirs' role as dispersal barriers) 981-989; *Eumias (Dinematochirus) (dendriticus sp. group: dendriticus, monoclonus, lanceolatus n. sp., monoclonoides n. sp., dinema n. sp., interruptus n. sp., minimus n. sp., pinnatus n. sp., uniramus n. sp.)* (most spp. very limited distrib.) 1002-1013; *Fluviophylax palikur n. sp.* (miniaturiz. in freshwater fishes much more common in Amazonia than elsewhere) 1027-1034.

**BLOOD**, *Parablennius sanguinolentus* (ion and hematocrit chngs. w/ chng. in environ. salin.) 775-779.

**CALLS**, *Physalaemus maximus n. sp.* (notes) 141-145; *Bufo (cognatus × woodhousii, alvarius × woodhousii)* (intermed. calls in hybrids) 281-286; *Hyla gratiosa* (timing of male chorusing) 333-347; *Eleutherodactylus (llojsintuta n. sp., platydactylus)* (descript., sonagrams) 422-427; *Bufo americanus* (release vocs. same for artific. & natural stim.) 506-508; *Dendrobates vanzolinii* (territ. defence & female-attracting, rel. to biparental care) 565-575; *Paratelmatobius cardosoi n. sp.* (descript.) 1014-1026; *Eleutherodactylus coqui* (eff. of competit. on calling rate, tape rec. playbacks) 1118-1122.

**CHROMOSOMES**, *Oncorhynchus mykiss* (evol. of popns. w/ 58 & 60 chromosomes, biogeogr. hypoth.) 287-298; *Gymnotus (sylvius n. sp., inaequilabiatus, carapo)* (sp. diff. in #) 410-421; *Salmo trutta* (heteromorphous chrom. pairs disting. 2 popns.) 501-505.

**CIRCANNUAL RHYTHMS**, *Hemichatus haemichatus* (endogenous) 146-152.

**COLONIZATION**, *Macrhybopsis (tetraneura, hyostoma)* (role of reservoirs in disrupt. extinct./recolon. metapopn. dyn.) 981-989.

**COLORATION**, *Gobiodon brochu n. sp.* (preserved & living) 49-57; *Sebastes moseri* (specific ptnn. disappears in preserv.) 85-92; *Haplotaxodon trifasciatus n. sp.* (sp.-specific) 101-106; *Forotepus goodenbeani n. sp.* (fresh & preserved) 114-121; *Liolaemus (ramirezae n. sp., pagaburoi n. sp., alticolor)* (color & ptnn. diagnostic) 122-140; *Physalaemus maximus n. sp.* (preserved) 141-145; *Lepidogalaxias salaman-*

- droids* (strongly pigmented larvae) 219–224; *Pteronotropsis hypselopterus* (cryptic color in sedent. larvae) 274–280; *Bufo* (*cognatus* × *woodhousii*, *alvarius* × *woodhousii*) (intermed. color pttn. in hybrids) 281–286; *Parma microlepis* (age-rel. color change, sex. dimorph.) 348–361; *Sphenomorphus tagapayo* n. sp. (in life & preserved) 362–370; *Tropidophis (celiae* n. sp., *maculatus*) (descript.) 376–381; *Cyprinodon (bobmilleri* n. sp., *variegatus*) (descript.) 382–387; *Apostolepis (dorbignyi*, *nigroterminata*, *tenuis*, *vittata*, *multicincta* n. sp., *phillipsi* n. sp.) (descript., aposematic) 388–409; *Gymnotus (sykivius* n. sp., *inaequilabiatus*, *carapo*) (preserved) 410–421; *Eleutherodactylus lloisintuta* n. sp. (preserved & in life) 422–427; *Ambophthalmos (eurystigmaphoros* n. sp., *magnicirrus*, *angustus*) (dist. n. sp.) 428–433; *Eviota (susanae* n. sp., *rubra* n. sp., *epiphanes*) (distings. spp.) 439–446; *Haemulon squamipinna* n. sp. (distings. n. sp.) 447–452; *Pteronotropsis welaka* (color pttn. changes in male sex. dimorph. devel.) 479–486; *Hemiodus (tocantinensis* n. sp., *ternezi*, *thayeria*) (phyl. comments on color pttn. in genus) 718–722; *Thorius (omilemi* n. sp., *grandis* n. sp., *infernalis* n. sp.) (in life & preserved) 917–931; *Ptychozoon trinitoterra* n. sp. (preserved) 990–1001; *Paratelmatobius (gai-gae*, *lutzii*, *poecilogaster*, *cardosoi* n. sp., *maniqueira* n. sp.) (preserved & in life) 1014–1026; *Fluviphylax palikur* n. sp. (preserved & in life) 1027–1034; *Kasatika seigeli* n. sp. (in life) 1035–1040; *Paxton* n. gen. *concilians* n. sp. (preserved & in life) 1050–1071; *Psettina (senta* n. sp., *variegata*) (preserved) 1072–1078; *Caelorinchus melanognathus* n. sp. (preserved) 1079–1083; *Tyrannochromis macrostoma* (counter-shading in fish attack position) 1108–1111.
- COMPETITION**, *Rana (sylvatica, pipiens)*, *Bufo americanus* (interspp. comp. in shaded vs. unshaded ponds, w/ & w/o food suppl.) 1–12; Brazilian aquatic anuran larvae (13 spp.) (not import. in tdpl. commun. struct.) 22–33; *Siren (intermedia, lacertina)*, *Amphiuma means* (aff. local distrib.) 107–113; *Pteronotropsis welaka* (nest-guarding) 200–205; native & introd. western fish species (btwn. native & introd. spp., hab. overlap, all life stages) 321–332; *Cottus (asper, aleuticus)* (popn. dens. may aff. microhab. overlap btwn. spp.) 371–375; *Rana palmipes* (tdpl. density-depend. growth rates) 495–500; *Bufo cognatus*, *Spea (bombifrons, multiplicata)* (diet overlap btwn. sympat. anurans) 515–520; *Gambelia (sila, wislizenii, copei)* (sex. size dimorph. reduces intrasp. comp. for food) 649–660; *Etheostoma caeruleum* (sperm compet., fertil. success in group spawning of guarder vs. sneaker males, lg. body size advantage) 1084–1088; *Eleutherodactylus coqui* (eff. of compet. on calling rate) 1118–1122.
- CONSERVATION**, *Siren (intermedia, lacertina)*, *Amphiuma means* (hydrol. factors import. in distrib.) 107–113; native & introd. western fish species (hab. overlap btwn. native & introd. spp., info. for conserv. mngmnt.) 321–332; *Caretta caretta* (multiple paternity in clutches, import. info. for conserv. mngmnt.) 475–478; *Bufo cognatus*, *Spea (bombifrons, multiplicata)* (diet info. for anuran conserv. mngmnt.) 515–520; *Catostomus catostomus* (Salish sucker form) (signif. evol. unit, protected in Canada) 884–893; *Tupinambis (merianae, rufescens, dusei, longilineus, teguixin)* (phyl. anal. needed for mngmnt. of economically exploited spp.) 894–905; *Macrhybopsis tetranema* (proposed for fed. protect.) 969–980; *Macrhybopsis (tetranema, hyostoma)* (recomms. for mngmnt. rel. to range reducts. due to reservoirs) 981–989.
- DENTITION**, *Gobiodon brochus* n. sp. (w/ unique jaw morph.) 49–57; *Hemiodus (tocantinensis* n. sp., *ternezi*, *thayeria*) (phyl. comments on dent. in genus) 718–722; booid snakes (7 spp.) (tooth geometry rel. to prey-striking head mvmts.) 868–883; *Thorius (omilemi* n. sp., *grandis* n. sp., *infernalis* n. sp.) (tooth counts, strong dental sex. dimorph. in *T. grandis*) 917–931; Boidae (7 spp.), Pythonidae (8 spp.) (tooth penetration during strike beh., tooth angle meas. & video data) 1102–1107.
- DEVELOPMENT**, *Alopias pelagicus* (embryonic & post. embr.) 68–74; *Sceloporus palaciosi* (of corpus luteum rel. to embryonic dev.) 214–218; *Lepidogalaxias salamandroides* (unusual larval dev.) 219–224; *Pteronotropsis hypselopterus* (sedent. larvae, adhesive secr., dev. during sed. stage, saltatory ontog.) 274–280; *Pteronotropsis welaka* (of male sex. dimorph.) 479–486; *Sceloporus* (9 spp.), *Urosaurus ornatus* (no evid. for evol. of rapid devel. in cold climates) 692–700; *Diplodus holbrooki* (ontog. diffs. in fatty acids in muscle) 766–771; *Kinosternon baurii* (embryonic diapause) 958–968.
- DIGESTION**, *Chelydra serpentina*, *Sternotherus odoratus*, *Trachemys scripta* (dig. physiol. rel. to feeding ecol.) 75–84; *Pteronotropsis hypselopterus* (gut devel. rel. to transit. to larval feeding) 274–280; *Platy-saurus intermedius* (temper.-independ. of dig. efficiency) 299–303; *Ceratophrys cranwelli* (specific dynamic eff.) 710–717.
- DISTRIBUTION**, *Rana (sylvatica, pipiens)*, *Bufo americanus* (eff. of forest canopy on breeding pond distrib.) 1–12; *Gobiodon brochus* n. sp. 49–57; *Haplotaxodon trifasciatus* n. sp. 101–106; *Siren (intermedia, lacertina)*, *Amphiuma means* (aff. by hab. hydrol. & interspp. compet.) 107–113; *Foetorepus goodenbeani* n. sp. 114–121; *Liolaemus (ramirezae* n. sp., *pagaburoi* n. sp.) 122–140; *Rana (chensinensis, pirica, dybowskii, ornativentris)* 187–190; *Gambelia wislizenii* (mtDNA diffs. rel. to distrib.) 267–273; *Oncorhynchus mykiss* (of popns. w/ 58 & 60 chromosomes) 287–298; *Osteolaemus tetraspis osborni* (in habitat) 313–320; *Sphenomorphus tagapayo* n. sp. (of n. sp. & rels.) 362–370; *Cyprinodon (bobmilleri* n. sp., *variegatus*) (one spring) 382–387; *Apostolepis (dorbignyi, nigroterminata, tenuis, vittata, multicincta* n. sp., *phillipsi* n. sp.) (in Bolivia) 388–409; *Gymnotus (sykivius* n. sp., *inaequilabiatus*, *carapo*) 410–421; *Haemulon squamipinna* n. sp. 447–452; *Gonorynchus* (5 valid spp.) (of genus) 453–469; *Scomberomorus (regalis, brasiliensis, maculatus, concolor, sierra, tritor)* 596–613; *Acris crepitans crepitans*, *Bufo fowleri*, *Hyla (andersonii, versicolor)*,

*Pseudacris* (*crucifer crucifer*, *kalmi*), *Rana* (*clamitans melanota*, *sphenocephala utricularius*, *sylvatica*, *virgatipes*) (of anuran spp. in acid ponds w/ diff. environ. charcs.) 614-627; stream fishes (32 spp.) (in & near beaver ponds, SE blackwater streams) 628-639; *Catostomus catostomus* (Salish sucker form) 884-893; *Tupinambis* (*merianae*, *rufescens*, *duseni*, *longilineus*, *teguixin*) (of popns. sampled in phyl. anal.) 894-905; *Thorus* (*omilemi* n. sp., *grandis* n. sp., *infernalis* n. sp.) 917-931; *Macrhybopsis* (*tetranema*, *hyostoma*) (partial sympatry) 969-980; *Macrhybopsis* (*tetranema*, *hyostoma*) (in Arkansas R. basin, range reducts. since reservoir construct.) 981-989; *Ptychozoon trinitoterra* n. sp. 990-1001; *Eustomias* (*Dinematochirus*) (*dendriticus* sp. group: *dendriticus*, *monoclonus*, *lanceolatus* n. sp., *monoclonoides* n. sp., *dinema* n. sp., *interruptus* n. sp., *minimus* n. sp., *pinnatus* n. sp., *uniramus* n. sp.) 1002-1013; *Paratelmatobius* (*gaigeae*, *lutzi*, *poecilogaster*, *cardosoi* n. sp., *mantiqueira* n. sp.) 1014-1026; *Psetta variegata* (new record in S. hemisphere) 1072-1078; *Caelorinchus melanosagmatus* n. sp. (disjunct distrib. in Indian Ocean) 1079-1083.

**ECOLOGY.** *Rana* (*sylvatica*, *pipiens*), *Bufo americanus* (eff. of forest canopy on breeding pond distrib., aff. commun. compos.) 1-12; Brazilian aquatic anuran larvae (13 spp.) (tdpl. commun. struct. rel. to predation) 22-33; *Gobiodon brochus* n. sp. (coral assoc.) 49-57; *Bufo* (*marinus*, *granulosus*), *Hyla warrini*, *Leptodactylus macrosternum*, *Scinax rubra*, *Lysapsus limellus* (tdpl. commun. struct. rel. to pred. vulnerability) 58-67; *Chelydra serpentina*, *Sternotherus odoratus*, *Trachemys scripta* (dig. physiol. rel. to feeding ecol.) 75-84; *Hypsigena torquata* (feeding, evol. signif.) 93-100; *Siren* (*intermedia*, *lacertina*), *Amphiuma means* (local distrib. in rel. to hab. hydrol. & intersp. compet.) 107-113; *Pteronotropis welaka* (reprod., nest-associates of sunfish, hab., demogr.) 200-205; Western Caribbean gobies (48 spp.) (spp. assemblage rel. to hab.) 251-266; *Osteolaemus tetraspis osborni* (hab., dens., nesting sites) 313-320; native & introd. western fish species (hab. overlap btwn. native & introd. spp., all life stages) 321-332; *Cottus* (*asper*, *aleuticus*) (var. in microhab. overlap btwn. spp. rel. to ecol. factors) 371-375; *Tropidophis* (*celiae* n. sp., *maculatus*) (notes) 376-381; *Eleutherodactylus llojsintuta* n. sp. (notes) 422-427; *Eviota* (*susanae* n. sp., *rubra* n. sp., *epiphanes*) (notes, hab. diffs. btwn. sympat. spp.) 439-446; *Rana palmipes* (tdpl. feeding aff. hab. struct., potent. ecosyst. conseqs.) 495-500; *Acris crepitans crepitans*, *Bufo fowleri*, *Hyla* (*andersonii*, *versicolor*), *Pseudacris* (*crucifer crucifer*, *kalmi*), *Rana* (*clamitans melanota*, *sphenocephala utricularius*, *sylvatica*, *virgatipes*) (anuran commun. struct. in acid ponds w/ diff. environ. charcs.) 614-627; stream fishes (32 spp.) (eff. of beaver ponds on SE blackwater stream fish assemblages) 628-639; *Gambusia* (*sila*, *wislizenii*, *copei*) (feeding & reprod. ecol. rel. to sex. size dimorph.) 649-660; *Rivulus marmoratus* (eff. on growth & surv. of diff. environ. condits. in enclosures in mangrove swamp) 661-668; *Nerodia har-*

*teri paucimaculata* (reprod. ecol. of endngd. sp.) 701-709; *Amphisbaena alba* (diet, reprod. ecol.) 733-742; *Etheostoma* (*Boleosoma*) (*perlongum*, *olms-edi*) (hypothesis of ecol. correls. of annual vs. perennial life hist.) 906-916; *Rana nigromaculata* (feeding ecol. in rice fields) 940-947; *Kinosternon baurii* (nesting) 958-968; *Macrhybopsis* (*tetranema*, *hyostoma*) (harsh environ. rel. to popn. extinctions. due to reservoirs' role as dispersal barriers) 981-989.

**EGGS.** *Bufo* (*marinus*, *granulosus*), *Hyla warrini*, *Leptodactylus macrosternum*, *Scinax rubra*, *Lysapsus limellus* (pred. vulnerability) 58-67; *Alopias pelagicus* (oophagous embryos) 68-74; *Hypsigena torquata* (prey on lizard eggs) 93-100; *Liolaemus ramirezae* n. sp. (descript.) 122-140; *Pteronotropis welaka* (seas., size, #, males feed on sunfish eggs) 200-205; *Lepidogalaxias salamandroides* (descript.) 219-224; *Dendrobates vanzolinii* (nutritive eggs fed to tdpls., rel. to biparental care) 565-575; *Kinosternon baurii* (embryonic diapause, nest-pred.) 958-968; *Paratelmatobius* (*lutzi*, *poecilogaster*, *cardosoi* n. sp.) (notes) 1014-1026.

**ELECTRIC ORGAN.** *Gymnotus* (*sylvius* n. sp., *inaequilabiatus*, *carapo*) (discharge rate sp. specific) 410-421.

**ENDANGERED SPECIES.** *Elassoma* (6 spp.) (phyl. anal. of rels. of *Elassoma*, incl. 3 endngd. spp., to other fishes) 470-474; *Caretta caretta* (multiple paternity in clutches, import. info. for conserv. mngmnt.) 475-478; *Hyla andersonii* (breeding ecology) 614-627; *Nerodia harteri paucimaculata* (reprod. ecol.) 701-709; *Catostomus catostomus* (Salish sucker form) (signif. evol. unit, protected in Canada) 884-893; *Macrhybopsis tetranema* (endemic to Arkansas R. basin, recent range reduct., proposed for fed. protect.) 969-980; *Macrhybopsis* (*tetranema*, *hyostoma*) (role of reservoirs in range reducts. of both spp.) 981-989; *Paratelmatobius* (*gaigeae*, *lutzi*, *poecilogaster*, *cardosoi* n. sp., *mantiqueira* n. sp.) (all spp. very limited distrib., some possible extinctions) 1014-1026.

**EVOLUTION.** North American cyprinids (mtDNA data rel. to evol. of open posterior mydome) 13-21; *Eleutherodactylus cooki* (select. pressures on locom. rel. to temp. in cave frog) 40-48; *Hypsigena torquata* (evol. signif. of feeding biol.) 93-100; *Liolaemus* (*ramirezae* n. sp., *pagaburoi* n. sp.) (of viviparity, rel. to env. temp.) 122-140; *Amystoma barbouri* (select. press. on larvae from fish pred.) 174-181; *Oncorhynchus mykiss* (evol. of popns. w/ 58 & 60 chromosomes, biogeogr. hyp.) 287-298; *Crotalinae* (19 gen., 45 spp.) (clad. anal. elucid. evol. hist.) 576-586; *Scomberomorus* (*regalis*, *brasilensis*, *maculatus*, *concolor*, *sierra*, *tritor*) (estim. of speciation timing from clad. anal. w/ mtDNA, nuclear DNA, & morph. data) 596-613; *Gambusia* (*sila*, *wislizenii*, *copei*) (evol. & maint. of sex. dimorph., diff. pttns. in closely-rel. spp.) 649-660; *Sceloporus* (9 spp.), *Urosaurus ornatus* (no evid. for evol. of rapid devel. in cold climates) 692-700; *Hemiodus* (*tocantinensis* n. sp., *ternezi*, *thayeria*) (of color pttn. & dentit. in genus) 718-722; *Fundulus heteroclitus* (of aerial breathing,



- may be ancestral trait, not adapt. evol.) 743-748; *Catostomus catostomus* (Salish sucker form) (origin of Salish sucker as signif. evol. unit) 884-893; *Etheostoma* (*Boleosoma*) (*perlongum*, *olmstedii*) (hypothesis on evol. of annual vs. perennial life hist.) 906-916; *Gila atraria*, *Oncorhynchus clarki* (pred-mediated mortal. rel. to life hist. evol. in *G. atraria*) 948-957; *Fluviphylax palikur* n. sp. (of miniaturized in fishes) 1027-1034.
- FECUNDITY**, *Pteronotropis welaka* 200-205; *Nerodia harteri paucimaculata* (in endngnd. sp.) 701-709; *Gila atraria*, *Oncorhynchus clarki* (rel. to pred-mediated mortal. in *G. atraria*) 948-957; *Kinosternon baurii* (mult. small clutches in small turtles) 958-968.
- FEEDING**, *Gobiodon brochus* n. sp. (unique jaw morph.) 49-57; *Chelydra serpentina*, *Sternotherus odoratus*, *Trachemys scripta* (dig. physiol. rel. to feeding ecol.) 75-84; *Hypsigena torquata* (foraging tactics, evol. signif.) 93-100; *Hemichatus haemachatus* (circannual rhythms endogenous) 146-152; *Pteronotropis welaka* (males feed on sunfish eggs in shared nests) 200-205; *Pteronotropis hypselopterus* (no feed. during sedent. larval stage, transit. stage) 274-280; *Rana palmipes* (tdpl. feeding aff. hab. struct., potent. ecosyst. conseqs.) 495-500; *Dendrobates vanzolinii* (nutritive eggs for tdp., rel. to biparental care) 565-575; *Gambelia* (*sila*, *wislizenii*, *copei*) (var. degrees of sex. size dimorph. rel. to feeding ecol. & territ.) 649-660; *Ceratophrys cranwelli* (increased met. rate after feeding) 710-717; *Sistrurus miliarius barbouri* (prey chem. cues aff. ambush site choice) 772-774; booid snakes (7 spp.) (prey-striking head mvmts.) 868-883; *Rana nigromaculata* (stom. conts., prey types rel. to prey avail.) 940-947.
- FOOD**, *Rana* (*sylvatica*, *pipiens*), *Bufo americanus* (diff. food types in shaded & unshaded ponds) 1-12; *Gobiodon brochus* n. sp. (stom. conts.) 49-57; *Hypsigena torquata* (diet, pred/prey size, evol. signif., stom. conts.) 93-100; *Liolaemus* (*ramirezae* n. sp., *pagaburoi* n. sp.) (fecal anal.) 122-140; *Platysaurus intermedius* (dig. efficiency rel. to diet qual.) 299-303; *Bufo marinus* (Na-turnover as estim. of food intake in free-living amphibians) 487-490; *Rana palmipes* (tdpls. grew well on algae & sediments) 495-500; *Bufo cognatus*, *Spea* (*bombifrons*, *multiplacata*) (diet overlap btwn. sympat. anurans, stom. conts.) 515-520; *Phaenognathus hubrichti* (diet, stom. & fecal conts.) 523-525; *Amphisbaena alba* (stom. conts.) 733-742; *Diplodus holbrooki* (ontogen. diet chngs. rel. to ontog. var. in fatty acids in muscle) 766-771; *Rana nigromaculata* (diet rel. to prey avail.) 940-947.
- GENETICS**, Actinopterygian fishes (reliable amplif. primers target nuclear encoded locus-specific introns) 191-196; *Salmo trutta* (gen. diffs. btwn. popns. in heteromorphic chromosome pairs) 501-505.
- GEOGRAPHIC LOCALITIES**, Alabama, *Rana catesbeiana* 153-162; *Phaenognathus hubrichti* 523-525. Alaska, *Catostomus catostomus* 884-893. Andaman Sea, *Caelorinchus melanosagmatus* n. sp. 1079-1083. Argentina, *Liolaemus* (*ramirezae* n. sp., *pagaburoi* n. sp., *alticolor*) 122-140. Arizona, *Gambelia wislizenii* 267-273; *Bufo* (*cognatus* × *woodhousii*, *alvarius* × *woodhousii*) 281-286; *Gambelia wislizenii* 649-660; *Sceloporus* (*scalaris*, *virgatus*) 692-700. Arkansas, *Macrhybopsis hyostoma* 969-980. Atlantic Ocean, *Feotorepus* (*goodenbeani* n. sp., *agassizii*, *dagmarae*) (NW) 114-121; *Charcharhinus plumbeus* (Mid-Atlant. Bight) 182-186; *Scomberomorus* (*regalis* [W], *brasiliensis* [W, SW], *maculatus* [NW], *tritor* [E]) 596-613; *Cetorhinus maximus* (N) 780-782; *Eustomias* (*Dinematichirus*) (*dendriticus* sp. group: *dendriticus* [Cent.], *monoclonus* [W], *lanceolatus* n. sp. [Cent.], *monoclonoides* n. sp. [E]) 1002-1013. Australia, *Gobiodon brochus* n. sp. (QLD, Great Barrier Reef) 49-57; *Lepidogalaxias salamandroides* (WA) 219-224; *Parma microlepis* (NSW) 348-361; *Gonorynchus* (*greyi*, *forsteri*) 453-469; *Hemiergis decresiensis* (SA) 526-528; *Galaxias* (7 spp. [TAZ], *olidus* [VIC], *occidentalis* [WA]), *Neochanna cleaveri* (TAZ), *Galaxiella* (*munda*, *nigostriata* [WA], *pusilla* [VIC]), *Paragalaxias* (4 spp. [TAZ]) 932-939; *Paxton* n. gen. *conciatians* n. sp. (WA) 1050-1071; *Psettina* (*sentia* n. sp., *variegata*) (WA) 1072-1078; *Chlamydosaurus kingii* (NT) 1089-1096. Azores, *Lacerta dugesii* 749-754. Bahamas, *Anolis sagrei* 760-765. Bali, *Zenarchopterus gilli* 1097-1101. Belize, Western Caribbean gobies (48 spp.) 251-266. Bolivia, *Hyla splendens* = *Gastrotheca splendens* 197-199; *Apostolepis* (*dorbignyi*, *nigroterminata*, *tenuis*, *vittata*, *multicincta* n. sp., *phillipsi* n. sp.) 388-409; *Eleutherodactylus* (*llojsintuta* n. sp., *platydactylus*) 422-427. Brazil, aquatic anuran larvae (13 spp.) 22-33; *Bufo* (*marinus*, *granulosus*), *Hyla waurini*, *Leptodactylus macrosternum*, *Scinax rubra*, *Lyssapsus limellus* 58-67; *Physalaemus maximus* n. sp. 141-145; *Gymnotus* (*sylvius* n. sp., *inaequilabiatus*, *carapo*) 410-421; *Haemulon squamipinna* n. sp. 447-452; *Dendrobates vanzolinii* 565-575; *Hemiodus* (*tocontinensis* n. sp., *ternezi*, *thayeria*) 718-722; *Amphisbaena alba* 733-742; *Tupinambis* (*longilineus*, *teguixin*) 894-905; *Paratelmatobius* (*gaigeae*, *lutzi*, *poecilogaster*, *cardosoi* n. sp., *mantiqueira* n. sp.) 1014-1026; *Fluviphylax palikur* n. sp. 1027-1034; *Megadontognathus kaitukaensis* n. sp. 1041-1049. California, *Sebastes moseri* 85-92; *Gambelia wislizenii* 267-273; *Squatina californica* 304-312; *Cottus* (*asper*, *aleuticus*) 371-375; *Gambelia* (*sila*, *wislizenii*) 649-660; *Sceloporus occidentalis* 692-700; *Xyrauchen texanus* (fossil) 755-759; *Kasathia seigeli* n. sp. 1035-1040. Canada, *Oncorhynchus mykiss* (Brit. Col.) 287-298; *Nerodia sipedon* (Ont.) 723-732; *Cetorhinus maximus* (Nova Scotia) 780-782; *Catostomus catostomus* (Brit. Col., Alberta, Yukon Terr., Quebec), Salish sucker form (Brit. Col.) 884-893.

- Caribbean Sea, *Scomberomorus (regalis, brasiliensis)* 596-613; *Eustomias monoclonus* 1002-1013.
- Chile, *Gonorynchus greyi* 453-469; *Galaxias platei*, *Brachygalaxias bullocki* 932-939.
- China, *Rana chensinensis* 187-190.
- Colorado, *Macrhybopsis tetranema* 969-980.
- Cuba, *Tropidophis (celiae n. sp., maculatus)* 376-381.
- Democratic Republic of the Congo, *Haplotaxodon trifasciatus n. sp.* 101-106; *Osteolaemus tetraspis osborni* 313-320.
- Ecuador, *Tupinambis (longilineus, teguixin)* 894-905.
- El Salvador, *Rhadinaea pinicola = R. kinkelini* 529-530.
- Europe, *Podarcis* (14 spp.) 749-754.
- Fiji, *Gobiodon brochus n. sp.* 49-57.
- Florida, *Carcharhinus acronotus* 34-39; *Hyla gratiosa* 333-347; *Caretta caretta* 475-478; *Pteronotropis welaka* 479-486; *Cyprinodon variegatus* 509-514; *Rivulus marmoratus* 661-668; *Carcharhinus acronotus* 684-691; *Sistrurus miliarius barbouri* 772-774; *Kindermannia baurii* 958-968.
- France, *Pelobates fuscus* 1127-1130.
- Gulf of California, *Scomberomorus concolor* 596-613.
- Gulf of Mexico, *Forsteropus (goodenabeani n. sp., agassizii, dagmarae)* 114-121; *Carcharhinus plumbeus* 182-186; *Scomberomorus (regalis, maculatus)* 596-613; *Carcharhinus acronotus* (E) 684-691; *Eustomias monoclonus* 1002-1013.
- Hawaii, *Eviota (susanai n. sp., rubra n. sp., epiphanes)* 439-446; *Gonorynchus moseleyi* 453-469; *Eustomias dinema n. sp.* 1002-1013.
- Honduras, Western Caribbean gobies (48 spp.) 251-266.
- Idaho, *Gambelia wislizenii* 267-273, 649-660.
- Indian Ocean, *Gonorynchus (gonorynchus, greyi)* 453-469; *Eustomias (monoclonus, sp. [inform. described])* 1002-1013; *Caelorinchus melanosagmatus n. sp.* 1079-1083.
- Israel, *Parablennius sanguinolentus* 775-779.
- Japan, *Rana (pirica, dybowskii, ornativentris, japonica)* 187-190; *Megachasma pelagius* 210-213; *Gonorynchus abbreviatus* 453-469; *Rana nigromaculata* 940-947; *Eustomias interruptus n. sp.* 1002-1013.
- Kansas, *Macrhybopsis (tetranema, hyostoma)* 969-980, *Macrhybopsis tetranema* 981-989.
- Kentucky, *Ambystoma barbouri* 174-181.
- Kenya, *Caelorinchus melanosagmatus n. sp.* 1079-1083.
- Lake Malawi, *Tyrannochromis macrostoma* 1108-1111.
- Lake Tanganyika, *Haplotaxodon trifasciatus n. sp.* 101-106.
- Macquarie Island, *Ambloplites magnicirrus* 428-433.
- Malawi, *Tyrannochromis macrostoma* 1108-1111.
- Malaysia, *Zenarchopterus (gilli, buffonis)* 1097-1101.
- Mexico, *Barisia cf. B. imbricata*, *Phrynosoma (josecensis, cf. orbiculare)* (fossils, Nuevo Leon) 163-173; *Sceloporus palaciosi* (Mex.) 214-218; *Cyprinodon (bobmilleri n. sp., variegatus)* (Nuevo Leon) 382-387; *Encheliophis dubius* (Baja Cal.) 521-522; *Scomberomorus concolor* (Baja Cal., Son.) 596-613; *Gambelia (wislizenii [Baja Cal., Son.], copei [Baja Cal.])* 649-660; *Sceloporus aeneus* (Mex.) 692-700; *Thorius (omilemi n. sp., grandis n. sp., infernalis n. sp.)* (Guerr.) 917-931.
- Michigan, *Rana (sylvatica, pipiens)*, *Bufo americanus* 1-12; *Etheostoma caeruleum* 1084-1088.
- Mid-Atlantic Bight, *Carcharhinus plumbeus* 182-186.
- Mississippi, *Pteronotropis welaka* 200-205.
- Morocco, *Lacerta (andreanszkyi, perspicillata)* 749-754.
- Nevada, *Gambelia wislizenii* 267-273, 649-660.
- New Caledonia, *Gobiodon brochus n. sp.* 49-57.
- New Jersey, *Acris crepitans crepitans*, *Bufo fowleri*, *Hyla (andersonii, versicolor)*, *Pseudacris (crucifer crucifer, kalmi)*, *Rana (clamitans melanota, sphenocephala utricularius, sylvatica, virgatipes)* 614-627.
- New Mexico, *Gambelia wislizenii* 267-273; native & introd. western fish species 321-332; *Sceloporus (consobrinus, clarki)*, *Urosaurus ornatus* 692-700; *Macrhybopsis tetranema* 969-980, 981-989.
- New York, *Bufo americanus* 506-508.
- New Zealand, *Ambloplites (eurystigmatophoros n. sp., angustus)* 428-433; *Gonorynchus (forsteri, greyi)* 453-469; *Galaxias* (16 spp.), *Neochanna* (3 spp.) 932-939.
- North Carolina, *Diplodus holbrookii* 766-771; *Etheostoma (Boleosoma) (perlongum, olmstedii)* 906-916.
- North Dakota, *Ictalurus punctatus* 491-494.
- Oklahoma, *Macrhybopsis (tetranema, hyostoma)* 969-980; *Macrhybopsis hyostoma* 981-989.
- Oregon, *Gambelia wislizenii* 267-273, 649-660; *Thamnophis sirtalis*, *Taricha granulosa* 531-535.
- Pacific Ocean, *Gobiodon brochus n. sp.* (SW) 49-57; *Alopias pelagicus* (NW) 68-74; *Gonorynchus (greyi, forsteri, abbreviatus, moseleyi)* 453-469; *Scomberomorus sierra* (E) 596-613; *Eustomias (Dinematichirus) (dendriticus sp. group: monoclonus [W], dinema n. sp. [Cent.], interruptus n. sp. [NW], minimus n. sp. [W], pinnatus n. sp. [W], uniramis n. sp. [E], 2 sp. [inform. described] [W, N])* 1002-1013.
- Panama, *Stegastes (dorsopunicans, planifrons)* 857-867.
- Paraguay, *Tupinambis (merianae, rufescens, duseni)* 894-905.
- Peru, *Myoglanis koebekei n. sp.* 434-438.
- Philippines, *Sphenomorphus tagapayo n. sp.* 362-370.
- Poland, *Salmo trutta* 501-505.
- Puerto Rico, *Eleutherodactylus cooki* 40-48; *Eleutherodactylus coqui* 1118-1122.
- Rhode Island, *Fundulus heteroclitus* 743-748.
- Russia, *Oncorhynchus mykiss* (Kamchatka Pen.) 287-298.
- Singapore, *Zenarchopterus (gilli, buffonis)* 1097-1101.
- South Africa, *Hemachatus haemachatus* 146-152; *Platyseius intermedius* 299-303; *Gonorynchus gonorynchus* 453-469; *Galaxias zebratus* 932-939.
- South Carolina, *Siren (intermedia, lacertina)*, *Amphiuma means* 107-113; *Sceloporus undulatus* 587-595; stream fishes (12 spp.) 628-639; *Notropis cummingsae* 669-683.
- Spain, *Psammotromus algirus* 1112-1117.
- Sulu Sea, *Eustomias pinnatus n. sp.* 1002-1013.
- Taiwan, *Gonorynchus abbreviatus* 453-469.
- Tanzania, *Caelorinchus melanosagmatus n. sp.* 1079-1083.
- Texas, *Gambelia wislizenii* 267-273; *Bufo cognatus*,



- Spea (bombifrons, multiplicata)* 515-520; *Nerodia harteri paucimaculata* 701-709; *Machyropsis tetranema* 969-980, 981-989.
- Thailand, *Ptychozoon trinitaterra* n. sp. 990-1001.
- Tonga, *Gobiodon brochus* n. sp. 49-57.
- Utah, *Gambelia wislizenii* 267-273; 649-660; native & introd. western fish species 321-332; *Gila atraria*, *Oncorhynchus clarki* 948-957.
- Venezuela, *Rana palmipes* 495-500; *Megadontognathus cuyuniense* 1041-1049.
- Vietnam, *Ptychozoon trinitaterra* n. sp. 990-1001.
- Virginia, *Sceloporus hyacinthinus* 692-700; *Plethodon cinereus* 1123-1126.
- Washington, *Oncorhynchus mykiss* 287-298; *Catostomus catostomus* (includ. Salish sucker form) 884-893.
- Western North America, *Hypsiglena torquata* 93-100.
- Zambia, *Haplotaxodon trifasciatus* n. sp. 101-106.
- GROWTH.** *Allopias pelagicus* (embryonic & post-embryonic rates) 68-74; *Hemichatus haemichatus* (circannual rhythms in ecdysis endogenous) 146-152; *Lepidogalaxias salamandroides* (& dev. of larvae) 219-224; *Parma microlepis* (rate) 348-361; *Pteronotropis welaka* (rel. to ontog. of adult male sex. dimorph.) 479-486; *Rana palmipes* (tdpl. dens.-depend. growth rates) 495-500; *Thamnophis sirtalis*, *Taricha granulosa* (toxic prey expos. not aff. snake growth rates, toler. to toxin) 531-535; *Rivulus marmoratus* (under diff. environ. condits. in enclosures in mangrove swamp) 661-668; *Carcharias acronotus* (rates, max. size) 684-691; *Nerodia sipedon* (sex. dimorph. in growth rates, females greater) 723-732; *Anolis sagrei* (var. btwn. popns. rel. to var. in sex. size dimorph.) 760-765; *Etheostoma (Boleosoma) (perlongum, olmstedii)* (high growth rate in annual sp. vs. perennial sp.) 906-916; *Gila atraria*, *Oncorhynchus clarki* (juv. growth rates rel. to pred.-mediated mortal. in *G. atraria*) 948-957; *Chlamydosaurus kingii* (sex. dimorph. in rate, males faster) 1089-1096.
- HABITAT.** *Rana (sylvatica, pipiens)*, *Bufo americanus* (eff. of forest canopy on breeding pond distribution) 1-12; *Eleutherodactylus cooki* (thermal eff. on locom. in cave frog) 40-48; *Gobiodon brochus* n. sp. (specific corals) 49-57; *Foetorepus goodenbeani* n. sp. (notes) 114-121; *Liolaemus (ramirezae)* n. sp., *pagaburoi* n. sp. (notes) 122-140; *Physalaemus maximus* n. sp. (notes) 141-145; *Rana catzebeiana* (tdpl. hab. selection rel. to temp.) 153-162; *Hyla splendens* = *Gastrotheca splendens* (notes) 197-199; *Pteronotropis welaka* (nest-associates of sunfish) 200-205; *Lepidogalaxias salamandroides* (larval microhab.) 219-224; Western Caribbean gobies (48 spp.) (spp. assemblage rel. to hab.) 251-266; *Bufo (cognatus × woodhousii, alvarius × woodhousii)* (disturbed habs. rel. to hybrid.) 281-286; *Squatina californica* (microhab. of prey-ambush sites) 304-312; *Osteolaemus tetraspis osborni* (microhab., dens., nesting microhab.) 313-320; native & introd. western fish species (overlap btwn. native & introd. spp., all life stages) 321-332; *Sphenomorphus tagapayo* n. sp. (notes) 362-370; *Cottus (asper, aleuticus)* (microhab. overlap btwn. spp. varies in diff. rivers) 371-375; *Cypripodon (bolmilleri)* n. sp., *variegatus* (descript.) 382-387; *Gymnotus (sylvius)* n. sp., *inaequilabiatus, carapo* (notes) 410-421; *Eleutherodactylus llojintula* n. sp. (notes) 422-427; *Myoglanis koepckei* n. sp. (notes) 434-438; *Eviota (susanae)* n. sp., *rubra* n. sp., *epiphanes* (hab. diffs. btwn. sympat. spp.) 439-446; *Haemulon squamipinna* n. sp. (notes) 447-452; *Rana palmipes* (tdpl. feeding aff. hab. struct.) 495-500; *Phaenognathus hubrichtii* (microhab. aff. diet in salamander) 523-525; *Dendrobates vanzolinii* (microhab. rel. to biparental care) 565-575; *Acris crepitans crepitans*, *Bufo fowleri*, *Hyla (andersonii, versicolor)*, *Pseudacris (crucifer crucifer, kalmi)*, *Rana (clamitans melanota, sphenoccephala utricularius, sylvatica, virgatipes)* (anuran commun. struct. in acid ponds w/ diff. hab. charcs.) 614-627; stream fishes (32 spp.) (seas. & age-rel. hab. use in & near beaver ponds, SE blackwater streams) 628-639; *Gambelia (sila, wislizenii, copei)* (correl. w/ sex. size dimorphism) 649-660; *Parablennius sanguinolentus* (intertidal hab. not accomp. by euryhalinity) 775-779; *Tupinambis (merianae, rufescens, duseni, longilineus, teguixin)* (diffs. btwn. spp., rel. to economic exploitation) 894-905; *Etheostoma (Boleosoma) (perlongum, olmstedii)* (hypothesis of hab. correls. of annual vs. perennial life hist.) 906-916; *Thorius (omilemi)* n. sp., *grandis* n. sp., *infernalis* n. sp. (notes) 917-931; *Machyropsis (tetraneura, hyostoma)* (harsh hab. rel. to range reducts. due to reservoirs) 981-989; *Ptychozoon trinitaterra* n. sp. (notes on microhab., primary rain forest hab. for all 6 spp. of genus) 990-1001; *Paratelmatobius (gaigeae, lutzii, poecilogaster, cardosoi)* n. sp. (notes) 1014-1026; *Fluviphylax palikur* n. sp. (descript.) 1027-1034; *Megadontognathus (kaitukaensis)* n. sp., *cuyuniense* (notes) 1041-1049; *Paxton* n. gen. *concilians* n. sp. (notes, compare to other pseudamine apogonids) 1050-1071; *Psammotromus algeris* (greater hab. cover ass. w/ over-winter survival of hichlgs.) 1112-1117.
- HARDERIAN GLAND.** *Hemiergis decresiensis* (protein synth. rate) 526-528.
- HEARING.** *Chamaeleo calyptratus* (body vibrations possibly sensed auditorily through substrate) 225-228.
- HISTOLOGY.** *Gobiodon brochus* n. sp. (incl. scanning EM of unique jaw morph.) 49-57; *Sceloporus palaciosi* (corpus luteum devel. during gestation) 214-218; *Hemiergis decresiensis* (Harderian gland secr., autoradiography) 526-528.
- HOME RANGE.** *Dendrobates vanzolinii* (male territ. rel. to biparental care) 565-575; *Gambelia wislizenii* (var. degrees of sex. size dimorph. rel. to feeding ecol. & territ.) 649-660; *Anolis sagrei* (territ. rel. to sex. size dimorph.) 760-765; *Chlamydosaurus kingii* (males larger home ranges, no rel. of body size to home range) 1089-1096; *Plethodon cinereus* (food resources in territ. increases biting after territ.-defence threat) 1123-1126.
- HYBRIDIZATION.** *Bufo (cognatus × woodhousii, alvarius × woodhousii)* (natural hybrids) 281-286; *Etheostoma (nigripinne, neopterum)* (evid. of some in-

trogr. from comparing mtDNA, morph., & biogeogr. data) 551-564; *Scomberomorus (regalis, maculatus)* (evid. of introgr. from comparing morph., DNA, & biogeogr. data) 596-613; *Macrhybopsis (tetranema, hyostoma)* (possible evid. of slight introgr. in part of sympat. zone) 969-980.

**LARVAE**, *Rana (sylvatica, pipiens)*, *Bufo americanus* (eff. of forest canopy on breeding pond distrib.) 1-12; Brazilian aquatic anuran larvae (13 spp.) (tdpl. commun. struct. rel. to predation) 22-33; *Bufo (marinus, granulatus)*, *Hyla warrini*, *Leptodactylus macrosternum*, *Scinax rubra*, *Lysapsus limellus* (tdpl. commun. struct. rel. to pred. vulnerability) 58-67; *Rana catesbeiana* (hab. selection rel. to temp.) 153-162; *Ambystoma barbouri* (fish predators of larvae barrier to gene flow town. popns.) 174-181; *Lepidogalaxias salamandroides* (unusual larval devel., microhab.) 219-224; *Gambusia wislizenii* (sedent. larvae, adhesive secr., devel. during sedent. stage) 274-280; *Rana palmipes* (tdpl. feeding aff. hab. struct.) 495-500; *Dendrobates vanzolinii* (biparental care of eggs & tdpls.) 565-575; *Acris crepitans crepitans*, *Bufo fowleri*, *Hyla (andersonii, versicolor)*, *Pseudacris (crucifer crucifer, kalmi)*, *Rana (clamitans melanota, sphenoccephala utricularius, sylvatica, virgatipes)* (factors in var. larval dens. in anuran acid pond commun.) 614-627; *Paratelmatobius (poecilogaster, cardosoi n. sp.)* (descript.) 1014-1026.

**LATERAL LINE**, *Foetorepus goodenbeani n. sp.* (descript.) 114-121; *Kasatkia seigeli n. sp.* (descript., import. in assessing phyl. rels. of n. sp.) 1035-1040.

**LIFE HISTORY**, *Alopias pelagicus* (age, growth, repro.) 68-74; *Liolaemus (ramirezae n. sp., pagaburui n. sp.)* (notes) 122-140; *Pteronotropis welaka* (reprod. traits diff. from close rel. *P. hubbsi*) 200-205; *Gambusia (sila, wislizenii, copei)* (rel. to sex. size dimorph.) 649-660; *Etheostoma (Boleosoma) (perlongum, olmstedii)* (lipid level diff. rel. to annual vs. perennial life hist.) 906-916; *Gila atraria*, *Oncorhynchus clarki* (pred.-mediated mortal. rel. to life hist. evol. in *G. atraria*) 948-957; *Paratelmatobius (lutzi, poecilogaster, cardosoi n. sp.)* (notes on reprod., microhabs.) 1014-1026; *Chlamydosaurus kingii* (info. to facil. research on life hist. strategies) 1089-1096.

**LIGHT**, *Caelorinchus melanosagmatus n. sp.* (light organ anat. diagn. for sp. group) 1079-1083.

**LOCOMOTION**, *Carcharhinus acronotus* (swimming speed rel. to met. rate) 34-39; *Eleutherodactylus crooki* (thermal depend. of locom. in cave frog) 40-48; *Gambusia (sila, wislizenii, copei)* (rel. to sex. size dimorph.) 649-660; *Kinosternon baurii* (nesting mvmnts.) 958-968.

**METHODS**, Actinopterygian fishes (reliable amplif. primers target nuclear encoded locus-specific introns) 191-196; *Platysaurus intermedius* (temper.-independ. of dig. efficiency not an artifact) 299-303; *Bufo marinus* (Na<sup>+</sup>-turnover as estim. of food intake in free-living amphib.) 487-490; *Sceloporus undulatus* (non-destruct. method of estim. body

lipid mass) 587-595; *Rivulus marmoratus (R. marmoratus)* in enclosures good bioassay sp. for environ. condits.) 661-668.

**MICROSATELLITE DNA**, *Charcharhinus plumbeus* (confirms single widespread popn.) 182-186; *Oncorhynchus mykiss* (popns. w/ 59 & 60 chromosomes not diff. in microsat. DNA) 287-298; *Gymnotus (sylvius n. sp., inaequilabius, carapo)* (sp. diff.) 410-421; *Caretta caretta* (multiple paternity in clutches, microsat. DNA evid.) 475-478.

**MIGRATION**, *Macrhybopsis (tetranema, hyostoma)* (reservoirs as barriers to dispersal, result. range reducts.) 981-989; *Pelobates fuscus* (to breeding ponds, sex. dimorphic: more males) 1127-1130.

**MITOCHONDRIAL DNA**, North American cyprinids (mtDNA seqs in clad. anal., rel. to evol. of osteol.) 13-21; *Sebastes mosei* (rel. of n. sp. w/ congeners, phyl. notes) 85-92; *Rana (chensinensis, pirica, dybowskii, ornativentris, japonica)* (in clad. anal. of spp. group) 187-190; *Gambusia wislizenii* (intrasp. diff. rel. to biogeogr.) 267-273; *Elassoma* (6 spp.) (in phyl. anal. of rels. of *Elassoma* to other fishes) 470-474; *Etheostoma (Catonotus)* (18 spp.) (in clad. anal. of subgenus, compare to morph. data) 551-564; *Crotalinae* (19 gen., 45 spp.) (in clad. anal.) 576-586; *Scomberomorus (regalis, brasiliensis, maculatus, concolor, sierra, tritor)* (in clad. anal. of sp. group) 596-613; *Podarcis* (14 spp.), *Lacerta (andranszkyi, perspicillata, dugesii)* (in clad. anal. of *Podarcis* & rels.) 749-754; *Catostomus catostomus* (Salish sucker form) (signif. evol. unit, morph. & mtDNA evid.) 884-893.

**MORPHOLOGY**, *Gobiodon brochus n. sp.* (unique jaw morph.) 49-57; *Megachasma pelagios* (brain & cranial nerves) 210-213; *Pteronotropis hypselopterus* (larval morph., sedent. & transit.) 274-280.

**NESTING**, *Pteronotropis welaka* (nest-associates of sunfish) 200-205; *Osteolaemus tetraspis osborni* (descript. & microhab.) 313-320; *Caretta caretta* (multiple paternity in clutches) 475-478; *Dendrobates vanzolinii* (tdpls. moved from hatch. loc. to rearing loc., biparental care) 565-575; *Kinosternon baurii* (nest. ecol.) 958-968.

**NOMENCLATURE**, *Hyla splendens = Gastrotheca splendens* (new specimen, redescribe) 197-199; *Apostolepis (dorbignyi, nigroterminalata, tenuis, vittata, multincta n. sp., phillipsi n. sp.)* (n. spp., synonymy in rels.) 388-409; *Eleutherodactylus (llojsintuta n. sp., platydactylus)* (n. sp., designate lectotype of *Hylodes platydactylus*) 422-427; *Gonorynchus* (5 valid spp.) (genus revision, synonym. spp.) 453-469; *Rhadinaea pinicola = R. kinkelini* (synonymy) 529-530.

**NUCLEAR DNA**, *Scomberomorus (regalis, brasiliensis, maculatus, concolor, sierra, tritor)* (in clad. anal. of sp. group) 596-613.

**OLFACTION**, *Crotalus atrox* (olfactory cues from envenomated prey detect. by pred.) 640-648; *Sistrurus miliarius barbouri* (prey chem. cues aff. ambush site choice) 772-774.

**OSTEOLOGY**, North American cyprinids (mtDNA data rel. to evol. of open posterior myodome)

13-21; *Gobiodon brochus* n. sp. (unique jaw morph.) 49-57; *Xyrauchen texanus* (fossil) (probably Pliocene fossil, nearly complete) 755-759; booid snakes (7 spp.) (bones involved in prey-striking head mvmts.) 868-883; *Thorius (omiltemi* n. sp., *grandis* n. sp.) (cleared & stained, strong sex. dimorph. in *T. grandis*) 917-931; *Galaxias* (25 spp.), *Brachygalaxias bullocki*, *Neochanna* (3 spp.), *Galaxiella* (3 spp.), *Paragalaxias* (4 spp.) (caudal skel. descript., unusual intersp. & intrasp. var.) 932-939; *Fluviphylax palikur* n. sp. (bone reduct. rel. to miniaturiz., phylog.) 1027-1034; *Kasatkia seigeli* n. sp. (caudal skel., import. in assessing phyl. rels. of n. sp.) 1035-1040; *Paxton* n. gen. *concilians* n. sp. (comparative osteol. of n. sp. & other apogonids, clad. anal.) 1050-1071.

**PALEONTOLOGY**, *Barisia* cf. *B. imbricata*, *Phrynosoma (josecitensis, cf. orbiculare)* (lizard fossils from Mexican cave) 163-173; *Xyrauchen texanus* (fossil) (probably Pliocene fossil, nearly complete) 755-759.

**PEROMONES**, *Crotalus atrox* (olfactory cues from envenomated prey detect. by pred.) 640-648.

**PHYLOGENETIC ANALYSIS**, North American cyprinids (clad. anal., mtDNA seqs., rel. to homol. of open posterior myodome) 13-21; *Gobiodon brochus* n. sp. (n. sp., notes only) 49-57; *Sebastes moseri* (notes on rel. of n. sp. w/ congeners, mtDNA data) 85-92; *Rana (chensinensis, pirica, dybowskii, ornativentris, japonica)* (clad. anal., mtDNA data, *Rana temporaria* spp. group) 187-190; Actinopterygian fishes (reliable amplif. primers target nuclear encoded locus-specific introns) 191-196; *Gambelia wislizenii* (clad. anal. of popns., mtDNA data, rel. to biogeogr.) 267-273; *Ambloplites* (*eurystigmaphoros* n. sp., *magnicirrus, angustus*) (n. sp. compare to congeners & sister genus *Cotunculus*, phyl. notes) 428-433; *Myoglanis (koepckei* n. sp., *potaroensis, collettii*) (n. sp. compare to congeners, phyl. notes) 434-438; *Gonorynchus* (5 valid spp.) (genus revision, clad. anal.) 453-469; *Elassoma* (6 spp.) (clad. anal. btwn. *Elassoma* & centrarchids, moronids, atherinomorphs and cichlids, mtDNA data) 470-474; *Etheostoma (Catonotus)* (18 spp.) (clad. anal. of subgenus, complete mtDNA cyt b gene, morph. data, combined data sets) 551-564; *Crotalinae* (19 gen., 45 spp.) (clad. anal. of subfam., mtDNA data) 576-586; *Scomberomorus (regalis, brasiliensis, maculatus, colorado, sierra, tritor)* (clad. anal. of sp. group, mtDNA, nuclear DNA & morph. data) 596-613; *Sceloporus* (9 spp.), *Urosaurus ornatus* (devel. rate rel. to phylog., not climate) 692-700; *Hemiodus (tocantinensis* n. sp., *ternezi, thayeria*) (phyl. comments on color pttn. & dentit. in genus) 718-722; *Podarcis* (14 spp.), *Lacerta (andreauskii, perspicillata, dugesii)* (clad. anal. of *Podarcis* & rels., mtDNA data) 749-754; booid snakes (7 spp.) (booid & viperid prey-striking pttns. compared, possible homologies) 868-883; *Catostomus catostomus* (Salish sucker form) (clad. anal. of sp., Salish sucker is signif. evol. unit, morph. & mtDNA evid.) 884-893; *Tupinambis (merianae, rufescens,*

*duseni, longilineus, teguixin*) (clad. anal. of economically exploited spp., mtDNA & morph. data) 894-905; *Ptychozoon trinotaterra* n. sp. (clad. notes on rels. btwn. the 6 spp. in genus) 990-1001; *Fluviphylax palikur* n. sp. (clad. notes on n. sp. rel. to congeners, phyl. notes on miniaturiz.) 1027-1034; *Megadontognathus kaitukaensis* n. sp. (clad. anal. of n. sp., its congener & all known other gymnotiform genera, morph. data) 1041-1049; *Paxton* n. gen. *concilians* n. sp. (clad. anal., n. sp. & n. gen. is pseudamine apogonid, diagnose *Pseudaminae*, surface anat. & osteol. charcs.) 1050-1071.

**PHYSIOLOGY**, *Carcharhinus acronotus* (swimming speed rel. to met. rate) 34-39; *Eleutherodactylus cooki* (met. rate rel. to locom. in cave frog) 40-48; *Chelydra serpentina*, *Sternotherus odoratus*, *Trachemys scripta* (dig. physiol. rel. to feeding ecol.) 75-84; *Rana catesbeiana* (tdpl. hab. selection rel. to temp. & dissolved ox.) 153-162; *Platysaurus intermedius* (temper.-independ. of dig. efficiency) 299-303; *Bufo marinus* (Na-turnover as estim. of food intake in free-living amphib.) 487-490; *Cyprinodon variegatus* (salin. chngs. greater than normal in wild decr. met. rate) 509-514; *Sceloporus undulatus* (non-destruct. method of estim. body lipid mass) 587-595; *Notropis cummingsae* (lipid cycles rel. to reprod., resource avail.) 669-683; *Sceloporus* (9 spp.), *Urosaurus ornatus* (no evid. for evol. of rapid devel. in cold climates) 692-700; *Ceratophrys cranwelli* (increased met. rate after feeding) 710-717; *Fundulus heteroclitus* (aerial respir.) 743-748; *Diplodus holbrooki* (percent lipid & fatty acid profile in muscle, seas., gender & ontogen. var.) 766-771; *Parablennius sanguinolentus* (poor osmoreg. at low salin.) 775-779; *Stegastes (dorsopunicans, planifrons)* (agon. beh. not energy costly) 857-867; *Etheostoma (Boleosoma)* (*perlungum, olmstedii*) (lipid levels of annual & perennial close rels., correl. w/ life hist.) 906-916; *Kinosternon baurii* (energy costs possibly aff. nesting beh.) 958-968.

**POPULATIONS**, *Ambystoma barbouri* (low gene flow btwn. popns.) 174-181; *Charcharhinus plumbeus* (microsat. DNA confirms single widespread popn.) 182-186; *Gambelia wislizenii* (mtDNA diffs. rel. to biogeogr.) 267-273; *Oncorhynchus mykiss* (evol. of popns. w/ 58 & 60 chromosomes, biogeogr. hypoth.) 287-298; *Salmo trutta* (heteromorphic chromosome pairs disting. 2 popns.) 501-505; *Acris crepitans crepitans*, *Bufo fowleri*, *Hyla (andersonii, versicolor)*, *Pseudacris (crucifer crucifer, kalmi)*, *Rana (clamitans melanota, sphenoccephala utricularius, sylvatica, virgatipes)* (popns. of diff. anuran spp. in acid ponds w/ diff. environ. charcs.) 614-627; stream fishes (32 spp.) (popn. dyn. in & near beaver ponds, SE blackwater streams) 628-639; *Gambelia wislizenii* (var. degrees of sex. size dimorph. rel. to feeding ecol. & territ.) 649-660; *Notropis cummingsae* (popn. struct. rel. to lipid cycles, reprod., resource avail.) 669-683; *Nerodia sipedon* (var. in sex. size dimorph. btwn. popns. rel. to male size diffs.) 723-732; *Anolis sagrei* (factors in var. of sex. size dimorph.

btwn. popns.) 760–765; *Gila atraria*, *Oncorhynchus clarki* (life hist. diffs. btwn. popns. of *G. atraria* w/ & w/out predators) 948–957; *Macrobryopsis* (*tetranema*, *hyostoma*) (role of reservoirs in popn. extinctions.) 981–989; *Chlamydosaurus kingii* (popn. struct., dens.) 1089–1096; *Pelobates fuscus* (popn. age struct. sex. dimorphic, more males go to breeding ponds) 1127–1130.

PRECLOACAL GLANDS, *Amphisbaena alba* (no sex. dimorph.) 733–742.

PREDATION, Brazilian aquatic anuran larvae (13 spp.) (main factor in tdpl. commun. struct.) 22–33; *Bufo* (*marinus*, *granulosus*), *Hyla warrineri*, *Lepidodactylus macrosternum*, *Scinax rubra*, *Lyssapsus limellus* (tdpl. commun. struct. rel. to pred. vulnerability) 58–67; *Hypsigenia torquata* (prey type, size, pred. tactics, evol. signif.) 93–100; *Ambystoma barbouri* (fish predators barrier to gene flow btwn. popns.) 174–181; *Pteronotropis hypselopterus* (pred. protection in sedent. larvae) 274–280; *Squatina californica* (prey-capture beh.) 304–312; *Osteolemus tetraspis osborni* (descript. of nest pred.) 313–320; *Cottus* (*asper*, *aleuticus*) (may aff. microhab. overlap btwn. spp.) 371–375; *Bufo cognatus*, *Spea* (*bombifrons*, *multiplicata*) (diet overlap btwn. sympat. anurans, stom. conts.) 515–520; *Phaenognathus hubrichti* (diet, stom. & fecal conts.) 523–525; *Thamnophis sirtalis*, *Taricha granulosa* (toxic prey expos. not aff. snake growth rates, toler. to toxin) 531–535; *Crotalus atrox* (olfactory cues from envenomated prey detect. by pred.) 640–648; *Gambusia* (*sila*, *wislizenii*, *copei*) (sex. size dimorph. rel. to prey type) 649–660; *Sistrurus miliarius barbouri* (prey chem. cues aff. ambush site choice) 772–774; booid snakes (7 spp.) (prey-striking head mvmts., video anal.) 868–883; *Rana nigromaculata* (prey types rel. to prey avail.) 940–947; *Gila atraria*, *Oncorhynchus clarki* (pred.-mediated mortal. rel. to life hist. evol. in *G. atraria*) 948–957; *Kinosternon baurii* (nest-pred.) 958–968; Boidae (7 spp.), Pythonidae (8 spp.) (tooth penetration during strike beh., tooth angle meas. & video data) 1102–1107; *Tyrannochromis macrostoma* (counter-shading in fish attack position) 1108–1111.

REPRODUCTION, *Rana* (*sylvatica*, *pipiens*), *Bufo americanus* (eff. of forest canopy on breeding pond distrib.) 1–12; *Alopias pelagicus* (# & devel. of embryos, age & size at sex. matur.) 68–74; *Liolaemus* (*ramirezae* n. sp., *pagaburui* n. sp.) (diff. modes in sympat. spp., ecol. corrells.) 122–140; *Pteronotropis welaka* (reprod. traits diff. from close rel. *P. hubbsi*) 200–205; *Sceloporus palaciosi* (corpus luteum devel. during gestation) 214–218; *Bufo* (*cognatus* × *woodhousii*, *alvarius* × *woodhousii*) (mating beh. increases hybrid. chances) 281–286; *Hyla gratiosa* (factors in timing of male chorusing) 333–347; *Parma microlepis* (seas., rel. to temp., multiple spawning) 348–361; *Sphenomorphus tagapayo* n. sp. (notes) 362–370; *Caretta caretta* (multiple patern. in clutches) 475–478; *Pteronotropis welaka* (ontog. of male sex. dimorph., rel. to testis mass alloc.) 479–486; *Ictalurus punctatus* (mascu-

linization of spawning females in polluted river) 491–494; *Dendrobates vanzolinii* (ctshp. beh., egg-laying, fecund., biparental care) 565–575; *Acris crepitans crepitans*, *Bufo fowleri*, *Hyla* (*andersonii*, *versicolor*), *Pseudacris* (*crucifer crucifer*, *kalmi*), *Rana* (*clamitans melanota*, *sphenocephala utricularius*, *sylvatica*, *virgatipes*) (var. reprod. of anurans in acid ponds w/ diff. environ. charcs.) 614–627; stream fishes (32 spp.) (juv. & adult hab. use in & near beaver ponds, SE blackwater streams) 628–639; *Gambusia* (*sila*, *wislizenii*, *copei*) (sex. size dimorph. rel. to reprod. territ. defence) 649–660; *Notropis cummingsae* (lipid cycles rel. to reprod., resource avail.) 669–683; *Nerodia harteri paucimaculata* (reprod. ecol. of endngrd. sp.) 701–709; *Amphisbaena alba* (seas., fecund.) 733–742; *Anolis sagrei* (mating territ. rel. to sex. size dimorph.) 760–765; *Diplodus holbrooki* (lipid content of muscle, seas. diffs. rel. to reprod. & diet) 766–771; *Cetorhinus maximus* (group mating beh. in wild) 780–782; *Etheostoma* (*Boleosoma*) (*perlongum*, *olmstedii*) (lipid level low during reprod. in annual sp. vs. perennial sp.) 906–916; *Gila atraria*, *Oncorhynchus clarki* (fecund. rel. to pred.-mediated mortal. in *G. atraria*) 948–957; *Kinosternon baurii* (nesting beh., fecund., seas., egg-pred.) 958–968; *Macrobryopsis* (*tetranema*, *hyostoma*) (spawning mode rel. to reservoirs' role in range reducts.) 981–989; *Paratelmatobius* (*lutzi*, *poecilogaster*, *cardosoi* n. sp.) (notes on beh., seas., microhab.) 1014–1026; *Etheostoma caeruleum* (fertil. success in group spawning of guarder vs. sneaker males) 1084–1088; *Chlamydosaurus kingii* (seas., age at sex. matur.) 1089–1096; *Zenarchopterus* (*gilli*, *buffonis*) (notes on mating beh., use of modified fin rays) 1097–1101; *Eleutherodactylus coqui* (eff. of competit. on calling rate) 1118–1122; *Pelobates fuscus* (skewed sex ratio: more males migrate to breeding ponds) 1127–1130.

RESPIRATION, *Rana* (*sylvatica*, *pipiens*), *Bufo americanus* (dissolved ox. levels aff. distrib. in breeding ponds) 1–12; *Carcharias acronotus* (at diff. swimming speeds) 34–39; *Eleutherodactylus coqui* (thermal depend. of met. rate & locom. in cave frog) 40–48; *Chelydra serpentina*, *Sternotherus odoratus*, *Trachemys scripta* (ox. consumpt. rel. to feeding states) 75–84; *Dermophis mexicanus* (mechanism of pulm. ventilation) 206–209; *Rivulus marmoratus* (hypoxia aff. growth & surv. in enclosures in mangrove swamp) 661–668; *Ceratophrys cranwelli* (increased ox. consump. after feeding) 710–717; *Fundulus heteroclitus* (aerial resp.) 743–748; *Parablennius sanguinolentus* (ox. consump. in resp. to salin. chngs.) 775–779; *Stegastes* (*dorsopunicans*, *planifrons*) (ox. consump. not higher w/ agon. beh.) 857–867.

SALINITY, Western Caribbean gobies (48 spp.) (aff. spp. assemblage) 251–266; *Bufo marinus* (Na-turnover as estim. of food intake in free-living amphibians, environ. sal. an important variable) 487–490; *Cyprinodon variegatus* (sal. chngs. greater than normal in wild decr. met. rate) 509–514;

- Parablennius sanguinolentus* (low toler. of sal. chngs.) 775-779.
- SEX, *Alopias pelagicus* (ratio of embryos & adults) 68-74; *Ictalurus punctatus* (masculinization of spawning females in polluted river) 491-494; *Chlamydosaurus kingii* (sex ratio, more males) 1089-1096; *Pelobates fuscus* (skewed sex ratio: more males migrate to breeding ponds) 1127-1130.
- SEXUAL DIMORPHISM, *Pteronotropis welaka* (extreme male diffs., diff. body allocations from close rel. *P. hubbsi*) 200-205; *Parma microlepis* (in color) 348-361; *Cyprinodon* (*bobmilleri* n. sp., *variegatus*) (males smaller) 382-387; *Pteronotropis welaka* (male sex. dimorph., ontog. of mass alloc., color ptn. & fin shape) 479-486; *Ictalurus punctatus* (masculinization of spawning females in polluted river) 491-494; *Gambusia* (*sila*, *wislizenii*, *copei*) (rel. to ecol., beh., & phylogen. rels.) 649-660; *Nerodia harteri paucimaculata* (female neonates longer) 701-709; *Nerodia sipedon* (factors in sex. size dimorph., females larger) 723-732; *Amphisbaena alba* (lacking) 733-742; *Anolis sagrei* (factors in var. of sex. size dimorph. btwn. pops.) 760-765; *Thorius grandis* n. sp. (in dentition & osteol.) 917-931; *Fluviphylax palikur* n. sp. (in color, anal fin) 1027-1034; *Chlamydosaurus kingii* (in growth rate, territ. size) 1089-1096; *Pelobates fuscus* (of popn. age struct.: more males migrate to breeding ponds) 1127-1130.
- SIZE, *Alopias pelagicus* (embryos, post-embryos) 68-74; *Physalaemus maximus* n. sp. (large size disting. n. sp.) 141-145; *Lepidogalaxias salamandroides* (of eggs & larvae) 219-224; *Parma microlepis* (growth rate, size at matur.) 348-361; *Gambusia* (*sila*, *wislizenii*, *copei*) (var. degrees of sex. size dimorph. rel. to feeding ecol. & territ.) 649-660; *Notropis cummingsae* (lipid cycles rel. to body size, reprod., resource avail.) 669-683; *Carcharhinus acronotus* (age & growth of small shark) 684-691; *Nerodia harteri paucimaculata* (at matur., matern. size rel. to litter size, female neonates longer) 701-709; *Nerodia sipedon* (factors in sex. size dimorph., females larger) 723-732; *Amphisbaena alba* (largest worm-lizard) 733-742; *Anolis sagrei* (factors in var. of sex. size dimorph. btwn. pops.) 760-765; *Etheostoma* (*Boleosoma*) (*perlongum*, *olmstedii*) (body size rel. to annual vs. perennial life hist.) 906-916; *Thorius* (*omilemi* n. sp., *grandis* n. sp., *infernalis* n. sp.) (miniaturization, assoc. dental & osteol. novelty in *T. grandis*) 917-931; *Rana nigromaculata* (body size-class poorly correl. w/ prey types) 940-947; *Gila atraria*, *Oncorhynchus clarki* (size at matur. rel. to pred.-mediated mortal. in *G. atraria*) 948-957; *Kinosternon baurii* (small adult size aff. nesting beh.) 958-968; *Fluviphylax* (*palikur* n. sp. & all 4 congeners) (*F. palikur* smallest cyprinodontiform, miniaturiz. rel. to phylog., specific anat. reducts. vary) 1027-1034; *Etheostoma caeruleum* (body size diffs. btwn. guarder vs. sneaker males rel. to fertil. success in group spawning) 1084-1088; *Psammmodromus algirus* (large body size assoc. w/ over-winter survival of hatching). 1112-1117.
- SURVIVAL, *Rivulus marmoratus* (under diff. environ. condits. in enclosures in mangrove swamp) 661-668; *Notropis cummingsae* (rel. to lipid cycles, reprod.) 669-683; *Nerodia sipedon* (higher surv. of adult males) 723-732; *Etheostoma* (*Boleosoma*) (*perlongum*, *olmstedii*) (lipid levels rel. to sur. after reprod.) 906-916; *Gila atraria*, *Oncorhynchus clarki* (pred.-mediated mortal. rel. to life hist. evol. in *G. atraria*) 948-957; *Psammmodromus algirus* (factors in over-winter survival of hatching). 1112-1117.
- SYMBIOSIS, *Encheliophis dubius* (Panamic pen shell as host for pearlfish) 521-522.
- SYSTEMATICS, North American cyprinids (phylogen. anal., mtDNA seqs. data aff. taxon. rel. to osteol.) 13-21; *Gobiodon bruchus* n. sp. (n. sp., compare to *G. microphus*, phyl. notes) 49-57; *Sebastes moseri* n. sp. (n. sp., phyl. notes, cyt b seq. data) 85-92; *Haplotaxodon trifasciatus* n. sp. (n. sp., compare to *H. microlepis*) 101-106; *Foetorepus* (*goodenbeani* n. sp., *agassizii*, *dagmarae*) (n. sp., key to sympatric congeners) 114-121; *Liolaemus* (*ramirezae* n. sp., *pagaburoi* n. sp., *alticolor*) (cryptic n. spp. w/ diff. reprod. modes, diagnoses compar. to 11 most-similar congeners) 122-140; *Physalaemus maximus* n. sp. (n. sp., compare to congeners) 141-145; *Hyla splendens* = *Gastrotheca splendens* (new specimen, redescribe, compare to 2 congeners) 197-199; *Sphenomorphus tagapayo* n. sp. (n. sp. compare to congeners & *Parvosincius*) 362-370; *Tropidophis* (*celiae* n. sp., *maculatus*) (n. sp., compare to rel. *T. maculatus*) 376-381; *Cyprinodon* (*bobmilleri* n. sp., *variegatus*) (n. sp. compare to rel. *C. variegatus*) 382-387; *Apostolepis* (*dorbignyi*, *nigroterminata*, *tenuis*, *vittata*, *multicincta* n. sp., *phillipsi* n. sp.) (n. spp., redescripts., key to spp. + 6 other *Apostolepis*, synonymy) 388-409; *Gymnotus* (*syllivius* n. sp., *inaequilabiatus*, *carapo*) (n. sp. compare to rels.) 410-421; *Eleutherodactylus* (*llojsintuta* n. sp., *platydactylus*) (n. sp. compare to syntopic close rel.) 422-427; *Amblophthalmos* (*eurystigmatophorus* n. sp., *magnificirrus*, *angustus*) (n. sp. compare to congeners & sister genus *Cottunculus*, phyl. notes) 428-433; *Myoglanis* (*koepckei* n. sp., *petaroensis*, *colletii*) (n. sp. compare to congeners, phyl. notes) 434-438; *Eviota* (*susanae* n. sp., *rubra* n. sp., *epi-phanes*) (n. sp. compare to sympat. congener, phyl. notes) 439-446; *Haemulon squamipinna* n. sp. (n. sp. compare to congeners, key to W. Atlantic *Haemulon* [15 spp.]) 447-452; *Gonorynchus* (5 valid spp.) (genus revision, valid spp. diagnoses, phyl. anal., key to spp.) 453-469; *Elassoma* (6 spp.) (phyl. anal. of rels. of *Elassoma* to other fishes, mtDNA data) 470-474; *Etheostoma* (*Catonotus*) (18 spp.) (phyl. anal. of subgenus, mtDNA, morph., & combined data sets) 551-564; *Crotalinae* (19 gen., 45 spp.) (phyl. anal. of subfam., mtDNA data) 576-586; *Scomberomorus* (*regalis*, *brasilienis*, *maculatus*, *concolor*, *sierra*, *tritor*) (phyl. anal. of sp. group, mtDNA, nuclear DNA & morph. data) 596-613; *Hemiodus* (*tocantinensis* n. sp., *ternezi*, *thayeria*) (n. sp. compare to close rels., phyl. notes on color ptn. & dentit. in genus) 718-722; *Podarcis* (14 spp.), *Lacerta* (*andreanszkyi*, *perspicillata*, *dugei*) (phyl. anal. of *Podarcis* & rels., mtDNA data) 749-754; *Catostomus catostomus* (Sa-



lish sucker form) (phyl. anal. of sp., Salish sucker is signif. evol. unit, morph. & mtDNA evid.) 884–893; *Tupinambis (merianae, rufescens, duseni, longilineus, teguixin)* (phyl. anal. of economically exploited spp., mtDNA & morph. data) 894–905; *Thorius (omilemi n. sp., grandis n. sp., infernalis n. sp.)* (miniature genus, n. spp., morph., color, osteol. & alloz. data) 917–931; *Galaxias* (25 spp.), *Brachygalaxias bullocki*, *Neochanna* (3 spp.), *Galaxiella* (3 spp.), *Paragalaxias* (4 spp.) (osteol. of caudal skel. for phylogen. info., ancestral condit. hypoth.) 932–939; *Macrhybopsis (tetranema, hyostoma)* (redescr. *M. tetranema*, syst. anal. of *Macrhybopsis* from Arkansas R. basin) 969–980; *Ptychozoon trinotaterra n. sp.* (n. sp., phyl. notes on rels. w/ the 5 congeners) 990–1001; *Eustomias (Dinematochirus)* (*dendriticus* sp. group: *dendriticus*, *monoclonus*, *lanceolatus n. sp.*, *monoclonoides n. sp.*, *dinema n. sp.*, *interruptus n. sp.*, *minimus n. sp.*, *pinnatus n. sp.*, *uniramus n. sp.*) (of species group including 3 spp. informally described, key to spp.) 1002–1013; *Paratelmatobius (gaigeae, lutzii, poecilogaster, cardosoi n. sp., mantiqueira n. sp.)* (genus revision, 2 sp. groups, possible extinctions) 1014–1026; *Fluviophylax palikur n. sp.* (n. sp. compare to congeners, phyl. rel. to miniaturiz. of genus) 1027–1034; *Kasatkia seigeli n. sp.* (n. sp. compare to close rels., *K. memorabilis*, *Askoldia variegata*, *Opisthocentrus ocellatus*) 1035–1040; *Megadontognathus kaitiakaensis n. sp.* (phyl. anal. of n. sp., its congener & all known other gymnotiform genera, morph. data) 1041–1049; *Paxton n. gen. concilians n. sp.* (phyl. anal., n. sp. & n. gen. is pseudamine apogonid, *Paxton* is sister to *Gymnopogon*, diagnose Pseudaminae, surface anat. & osteol. charcs.) 1050–1071; *Psetina (senta n. sp., variega-*

*ta)* (n. sp. & rare sp. confirmed as *Psetina*, rediagn. *P. variegata*) 1072–1078; *Caelorinchus melan-osagnatus n. sp.* (n. sp. & *C. cingulatus* & *C. spilnotus* in sp. group) 1079–1083.

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